

1. A voice coil for a disk drive comprising: a spiral winding of conductive material defining a flat band with a generally triangular shape having an open center, first and second active leg portions and an inactive leg portion, a first curved corner portion connecting the first and second active leg portions, a second curved corner portion connecting the first active leg portion with the inactive leg portion, and a third curved corner portion connecting the second leg portion with the inactive leg portion, the first and second active leg portions curving inward of the band, the inactive leg portion curving outward of the band.
2. The coil of claim 1, wherein the radius of curvature of the first curved corner portion is greater than the radius of curvature of the second and third curved corner portions.
3. The coil of claim 2, wherein the radius of curvature of the second curved corner portion is equal to the radius of curvature of the third curved corner portion.
4. The coil of claim 1, wherein the cross-sectional area of the band varies along the length of the spiral winding.
5. (Once Amended) The coil of claim 4, wherein the cross-sectional area of the segments that define the inactive leg portion is smaller than the cross-sectional area of the remaining segments that define the first and second active leg portions.
6. A voice coil for a disk drive comprising: a rotatable spiral winding of conductive material defining a flat band with a generally triangular shape with an open center, first and second active leg portions and an inactive leg portion, a first curved corner portion connecting the first and second active leg portions, a second curved corner portion connecting the first active leg portion with the inactive leg portion, and a third curved corner portion connecting the second active leg portion with the inactive leg portion, the cross-sectional area of the band varying along its length.
7. The coil of claim 6, wherein the cross-sectional area of each of the segments that define the inactive leg portion is smaller than the cross-sectional area of each of the remaining segments that define the first and second active leg portions.

8- Cancelled

9. The coil of claim 6, wherein the radius of curvature of the first curved corner portion is greater than the radius of curvature of the second and third curved corner portions.

10. The coil of claim 9, wherein the radius of curvature of the second curved corner portion is equal to the radius of curvature of the third curved corner portion.

11. (Once Amended) In combination with an actuator member in a disk drive, a voice coil secured to a face of the actuator member, said voice coil comprising a continuous spiral winding defining a flat band with a generally triangular shape with an open center, first and second active leg portions and an inactive leg portion, a first curved corner portion connecting the first and second active leg portions, a second curved corner portion connecting the first active leg portion with the inactive leg portion, and a third curved corner portion connecting the second active leg portion with the inactive leg portion, the first and second active leg portions curving inward of the band, the inactive leg portion curving outward of the band.

12. The coil of claim 11, wherein the radius of curvature of the first curved corner portion is greater than the radius of curvature of the second and third curved corner portions.

13. The coil of claim 12, wherein the radius of curvature of the second curved corner portion is equal to the radius of curvature of the third curved corner portion.

14. The coil of claim 11, wherein the cross-sectional area of the band varies along its length.

15. (Once Amended) The coil of claim 14, wherein the cross-sectional area of the segments that define the inactive leg portion is smaller than the cross-sectional area of the remaining segments that define the first and second active leg portions.

16. (Once Amended) In combination with an actuator member in a disk drive, a voice coil secured to a face of the actuator member, said voice coil comprising a continuous rotatable spiral winding of wire defining a flat band with a generally triangular shape with an open center, first and second active leg portions and an inactive leg portion, a first curved corner portion connecting the first and second active leg portions, a second curved corner portion connecting the first active leg portion with the inactive leg portion, and a third curved corner portion connecting the second active leg portion with the inactive leg portion, the cross-sectional area of the band varying along its length.

17. (Once Amended) The coil of claim 16, wherein the cross-sectional area of the segments that define the inactive leg portion is smaller than the cross-sectional area of the remaining segments that define the first and second active leg portions.

18- Canceled

19. The coil of claim 16, wherein the radius of curvature of the first curved corner portion is greater than the radius of curvature of the second and third curved corner portions.

20. The coil of claim 19, wherein the radius of curvature of the second curved corner portion is equal to the radius of curvature of the third curved corner portion.

21-24 Canceled

25. (Once Amended) The coil of claim 6, with the first and second active leg portions curving inward of the band, and the inactive leg portion curving outward of the band.

26. (Once Amended) The coil of claim 16, with the first and second active leg portions curving inward of the band, and the inactive leg portion curving outward of the band.

27-30 Canceled

31. (Once Amended) A voice coil for driving an actuator arm to various positions over a disk of a disk drive, the voice coil comprising:

a spiral winding of conductive material defining a band with a generally triangular shape having an open center, wherein the spiral winding includes:

a first active leg portion that curves inwardly of the band;

a second active leg portion that curves inwardly of the band;

an inactive leg portion;

a first curved corner portion connecting the first and second active leg portions;

a second curved corner portion connecting the first active leg portion and the inactive leg portion; and

a third curved corner portion connecting the second active leg portion and the inactive leg portion.

32. The voice coil of claim 31, wherein the spiral winding is a planar coil.
33. The voice coil of claim 31, wherein the spiral winding is a single-layer coil.
34. The voice coil of claim 31, wherein the spiral winding is a planar single-layer coil.
35. The voice coil of claim 31, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding.
36. The voice coil of claim 31, wherein the height of the spiral winding remains substantially the same throughout the spiral winding.
37. The voice coil of claim 31, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding, and the height of the spiral winding remains substantially the same throughout the spiral winding.
38. The voice coil of claim 31, wherein a width of spiral winding segments defining the inactive leg portion is substantially smaller than a width of spiral winding segments defining the first and second active leg portions.
39. The voice coil of claim 38, wherein a width of spiral winding segments defining the first active leg portion is the same as a width of spiral winding segments defining the second active leg portion.
40. The voice coil of claim 31, wherein a cross-sectional area of spiral winding segments defining the inactive leg portion is substantially smaller than a cross-sectional area of spiral winding segments defining the first and second active leg portions.

41. The voice coil of claim 40, wherein a cross-sectional area of spiral winding segments defining the first active leg portion is the same as a cross-sectional area of spiral winding segments defining the second active leg portion.

42. The voice coil of claim 31, further comprising a top insulative layer and a bottom insulative layer, wherein the spiral winding is sandwiched between the top and bottom insulative layers.

43. The voice coil of claim 42, wherein the top and bottom insulative layers are polyimide and the spiral winding is copper.

44. The voice coil of claim 42, wherein the top insulative layer is secured to the spiral winding by an adhesive.

45. The voice coil of claim 42, wherein the bottom insulative layer is secured to the spiral winding by an adhesive.

46. The voice coil of claim 42, wherein the top and bottom insulative layers are secured to the spiral winding by adhesives.

47. (Once Amended) A voice coil for driving an actuator arm to various positions over a disk of a disk drive, the voice coil comprising:

a spiral winding of conductive material defining a flat band with a generally triangular shape having an open center, wherein the spiral winding is adapted to interact with the magnetic field of permanent magnets of the disk drive, and the spiral winding is a continuous planar single-layer coil that includes:

- a first active leg portion that curves inwardly of the band;
- a second active leg portion that curves inwardly of the band;
- an inactive leg portion;
- a first curved corner portion connecting the first and second active leg portions;
- a second curved corner portion connecting the first active leg portion and the inactive leg portion; and
- a third curved corner portion connecting the second active leg portion and the inactive leg portion.

48. The voice coil of claim 47, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding, and the height of the spiral winding remains substantially the same throughout the spiral winding.

49. The voice coil of claim 47, wherein a cross-sectional area of spiral winding segments defining the inactive leg portion is substantially smaller than a cross-sectional area of spiral winding segments defining the first and second active leg portions, and a cross-sectional area of spiral winding segments defining the first active leg portion is the same as a cross-sectional area of spiral winding segments defining the second active leg portion.

50. The voice coil of claim 47, further comprising a top insulative layer and a bottom insulative layer, wherein the spiral winding is sandwiched between the top and bottom insulative layers and secured to the top and bottom insulative layers by adhesives.

51. (Once Amended) A voice coil for driving an actuator arm to various positions over a disk of a disk drive, the voice coil comprising:

a rotatable spiral winding of conductive material defining a band with a generally triangular shape having an open center, wherein the spiral winding includes:

a first active leg portion defined by segments having a first cross-sectional area;

a second active leg portion defined by segments having a second cross-sectional area;

an inactive leg portion defined by segments having a third cross-sectional area, wherein the third cross-sectional area is smaller than the first cross-sectional area, and the third cross-sectional area is smaller than the second cross-sectional area;

a first curved corner portion connecting the first and second active leg portions;

a second curved corner portion connecting the first active leg portion and the inactive leg portion; and

a third curved corner portion connecting the second active leg portion and the inactive leg portion.

52. The voice coil of claim 51, wherein the spiral winding is a planar coil.
53. The voice coil of claim 51, wherein the spiral winding is a single-layer coil.
54. The voice coil of claim 51, wherein the spiral winding is a planar single-layer coil.
55. The voice coil of claim 51, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding.
56. The voice coil of claim 51, wherein the height of the spiral winding remains substantially the same throughout the spiral winding.
57. The voice coil of claim 51, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding, and the height of the spiral winding remains substantially the same throughout the spiral winding.
58. The voice coil of claim 51, wherein a width of the segments defining the inactive leg portion is substantially smaller than a width of the segments defining the first and second active leg portions.
59. The voice coil of claim 58, wherein a width of the segments defining the first active leg portion is the same as a width of the segments defining the second active leg portion.

60. The voice coil of claim 51, wherein the cross-sectional area of the segments defining the inactive leg portion is substantially smaller than the cross-sectional area of the segments defining the first and second active leg portions.

61. The voice coil of claim 60, wherein the cross-sectional area of the segments defining the first active leg portion is the same as the cross-sectional area of the segments defining the second active leg portion.

62. The voice coil of claim 51, further comprising a top insulative layer and a bottom insulative layer, wherein the spiral winding is sandwiched between the top and bottom insulative layers.

63. The voice coil of claim 62, wherein the top and bottom insulative layers are polyimide and the spiral winding is copper.

64. The voice coil of claim 62, wherein the top insulative layer is secured to the spiral winding by an adhesive.

65. The voice coil of claim 62, wherein the bottom insulative layer is secured to the spiral winding by an adhesive.

66. The voice coil of claim 62, wherein the top and bottom insulative layers are secured to the spiral winding by adhesives.



67. (Once Amended) A voice coil for driving an actuator arm to various positions over a disk of a disk drive, the voice coil comprising:

a rotatable spiral winding of conductive material defining a flat band with a generally triangular shape having an open center, wherein the spiral winding is adapted to interact with the magnetic field of permanent magnets of the disk drive, and the spiral winding is a continuous planar single-layer coil that includes:

a first active leg portion defined by segments having a first cross-sectional area;

a second active leg portion defined by segments having a second cross-sectional area;

an inactive leg portion defined by segments having a third cross-sectional area, wherein the third cross-sectional area is smaller than the first cross-sectional area, and the third cross-sectional area is smaller than the second cross-sectional area;

a first curved corner portion connecting the first and second active leg portions;

a second curved corner portion connecting the first active leg portion and the inactive leg portion; and

a third curved corner portion connecting the second active leg portion and the inactive leg portion.

68. The voice coil of claim 67, wherein the spacing between each loop of the spiral winding remains substantially the same throughout the spiral winding, and the height of the spiral winding remains substantially the same throughout the spiral winding.

69. The voice coil of claim 67, wherein the cross-sectional area of the segments defining the inactive leg portion is substantially smaller than the cross-sectional area of the segments defining the first and second active leg portions, and a cross-sectional area of the segments defining the first active leg portion is the same as a cross-sectional area of the segments defining the second active leg portion.

70. The voice coil of claim 67, further comprising a top insulative layer and a bottom insulative layer, wherein the spiral winding is sandwiched between the top and bottom insulative layers and secured to the top and bottom insulative layers by adhesives.